SCD DASH NO.	MANUFACTURER'S PART NUMBER ①	②	③	REVISIONS:
-0001	106068			

① ② ③	CONTROL DATA CORPORATION, GOVERNMENT SYSTEMS DIV., MINNESPOLIS, MINN. (09639)
	UNIT, COMPUTER BUFFER, GUIDANCE AND NAVIGATION

E.O. 199368

APPROVAL [signature] DATE 6-26-Y

NORTH AMERICAN AVIATION, INC.
SPACE and INFORMATION SYSTEMS DIVISION

REV. DATE

APPROVED SOURCE LIST

ME 901-0271

SHEET 1 OF 1

SCD

DASH NO.	MANUFACTURER'S PART NUMBER ①	②	③
-0001	106068		
-0002	106068-1		

REVISIONS. (A) ADDED -0002. CB

E.O. 31211

① ② ③ CONTROL DATA CORPORATION, MINNEAPOLIS, MINN. (09639)

UNIT, COMPUTER BUFFER, GUIDANCE AND NAVIGATION

APPROVAL [signature] DATE 7-9-4

NORTH AMERICAN AVIATION, INC.
SPACE and INFORMATION SYSTEMS DIVISION

REV. DATE _____

APPROVED SOURCE LIST

ME 901-0271

SHEET 1 OF 1

FORM 9254 REV 4-63

E.O. 4788862

SCD DASH NO.	MANUFACTURER'S PART NUMBER 1	2	3
-0001	106068		
~~-0002~~	~~106068-1~~ (1)		
~~-0003~~	~~106068-0002~~ (2)		
-0002	106032-G102		

(1) INACTIVE FOR PROCUREMENT AFTER 24 FEBRUARY 1966

(2) INACTIVE FOR PROCUREMENT AFTER 24 NOVEMBER 1964

REVISIONS. (A) ADDED -0002. CB (B) Changed -0002 11-24-64. CB (C) Inactivate Vendor P/N for -0002. Added new Vendor P/N for -0002. MWS 2-24-66

1 2 3 CONTROL DATA CORPORATION, MINNEAPOLIS, MINN. (09639)

UNIT, COMPUTER BUFFER, GUIDANCE AND NAVIGATION

APPROVAL [signature] DATE 7-9-4 NORTH AMERICAN AVIATION, INC. SPACE and INFORMATION SYSTEMS DIVISION

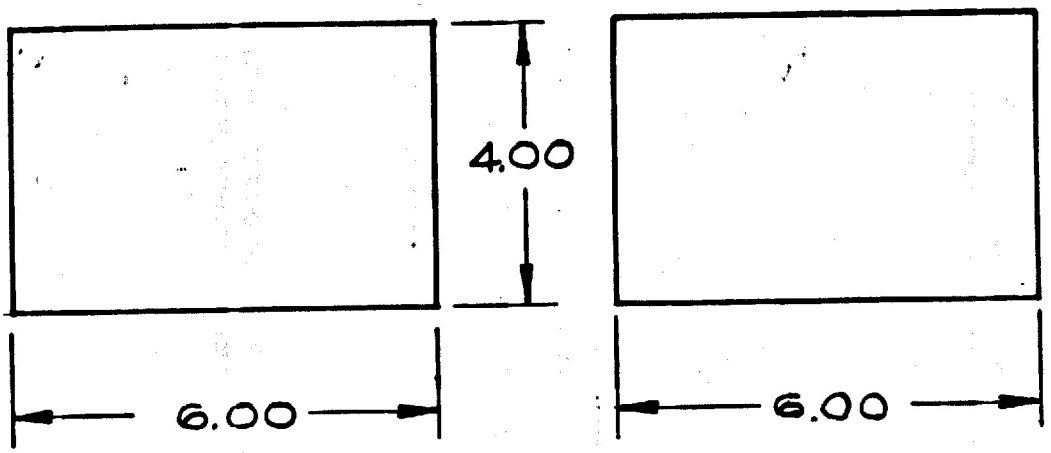
REV. DATE _____

APPROVED SOURCE LIST

ME 901-0271

SHEET 1 OF 1

FORM 1934 REV 4-63



DIMENSIONS SHOWN ARE MAXIMUM ENVELOPE

CONTROL NO. ME 901-0271-0001	TRACEABILITY T_S ①

① T_S=TRACEABILITY TO SERIAL NUMBER CONTROL

SEE ASL FOR PROCUREMENT DATA

PROCUREMENT SPEC: MC 901-0271
AND AMENDMENT 1, 2, AND 3

REVISED (A) 9-12-63 CD (B) ADDED AMEND. 2 & DELETED ASL NOTE. 1-25-64 SL (C) ADDED AMEND. 3 W. D. D. 2-27-64

TOLERANCES, EXCEPT AS NOTED
ANGLES ± 30' DECIMALS .XX = ±.03 .XXX = ±.010

TOLERANCES ON HOLES NOTED "DRILL"
.013 THRU .040 : +.001 -.001
.041 THRU .130 : +.002 -.001
.131 THRU .229 : .003 -.001
.230 THRU .500 : +.004 -.001
.501 THRU .750 : +.005 -.001
.751 THRU 1.000 : +.007 -.001
1.001 THRU 2.000 : +.010 -.001

CODE IDENT NO. 03953

DR BY	CALIVA	9/3/63
CHK BY		
APPROVED BY	J.C. Walt 9-3-63	Norman 9/24/63
	J. Schumann 9-4	S. Bullis 9/24/63

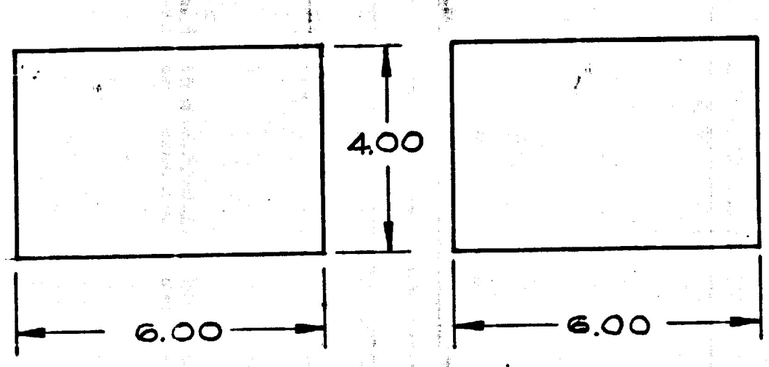
NORTH AMERICAN AVIATION, INC.
SPACE and INFORMATION SYSTEMS DIVISION
12214 LAKEWOOD BLVD., DOWNEY, CALIFORNIA

UNIT, COMPUTER BUFFER, GUIDANCE AND NAVIGATION
(SPEC CONTROL DRAWING)

CONTROL PART
ME 901-0271
SHEET 1 OF 1

FORM 925-M-1 NEW 6-63

E.O. 221060



DIMENSIONS SHOWN ARE MAXIMUM ENVELOPE

E.O. 221060

CONTROL NO. ME 901-0271-0001	TRACEABILITY T_S ①

① T_S=TRACEABILITY TO SERIAL NUMBER CONTROL

SEE ASL FOR PROCUREMENT DATA

PROCUREMENT SPEC: MC 901-0271
AND AMENDMENT 1, 2, AND 3

REVISED Ⓐ 9-12-63 CO Ⓑ ADDED AMEND. 3 DELETED ASL NOTE. 1-2564 SL © NAA 1963 W.D.D. 2-27-64

FORM 925-M-1 NEW 6-63

TOLERANCES, EXCEPT AS NOTED	TOLERANCES ON HOLES NOTED "DRILL"	CODE IDENT NO.
ANGLES ± 30' DECIMALS .XX = ±.03 .XXX = ±.010	.013 THRU .040 : +.001 -.001 .041 THRU .130 : +.002 -.001 .131 THRU .229 : +.003 -.001 .230 THRU .500 : +.004 -.001 .501 THRU .750 : +.005 -.001 .751 THRU 1.000 : +.007 -.001 1.001 THRU 2.000 : +.010 -.001	03953

DR BY	CALIVA	9/3/63	NORTH AMERICAN AVIATION, INC. SPACE and INFORMATION SYSTEMS DIVISION 12214 LAKEWOOD BLVD., DOWNEY, CALIFORNIA
CHK BY			UNIT, COMPUTER BUFFER, GUIDANCE AND NAVIGATION (SPEC CONTROL DRAWING)
APPROVED BY	J.E. Holt 9-3-63		CONTROL PART ME 901-0271 SHEET 1 OF 1
	[illegible] 9-4		

E.O. 4788178

DASH NO.	MANUFACTURER'S PART NUMBER 1	2	3
-0001	106068		
~~-0002~~	~~-106068-1~~ (1)		
~~-0002~~	~~106068-0002~~ (A)		
-0002	106068-G102		

(2) INACTIVE FOR PROCUREMENT AFTER 24 FEBRUARY 1966

(1) INACTIVE FOR PROCUREMENT AFTER 24 NOVEMBER 1964

REVISIONS: (A) Added -0002 CB (B) Changed -0002 11-24-64-O.D. (C) Inactivate Vendor P/N for -0002. Added new Vendor P/N for -0002. MWS 2/24/66 (D) 106068-G102 was 106032-G102. 3/3/66 CFB

1 2 3 CONTROL DATA CORPORATION, MINNEAPOLIS, MINN. (09639)

UNIT, COMPUTER BUFFER, GUIDANCE AND NAVIGATION

APPROVED SOURCE LIST

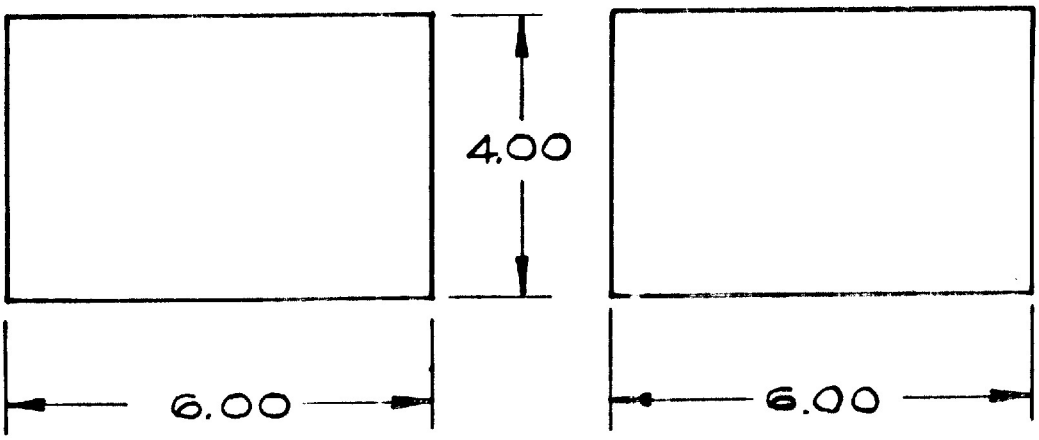
APPROVAL JCWoltz DATE 7/9/4 NORTH AMERICAN AVIATION, INC. SPACE and INFORMATION SYSTEMS DIVISION

ME 901-0271

REV. DATE _____

SHEET 1 OF 1

FORM 153-H REV 4-62



DIMENSIONS SHOWN ARE MAXIMUM ENVELOPE

①	IET	SCD DASH NO.
	E	-0001
	Ts	-0002

① IDENTIFICATION AND TRACEABILITY
(E) TRACEABILITY NOT REQUIRED
(T_S) TRACEABLE TO SERIAL NO.

E.O. 12040

REVISED (A) 9-12-63 CD (B) ADDED AVEV: 2.E (C) 1-25-64 SL (D) 7-9-64 CRS

SEE ASL FOR PROCUREMENT DATA

PROCUREMENT SPEC: MC 901-0271
AND AMENDMENT 1, 2, 3 & PDC 4

TOLERANCES, EXCEPT AS NOTED
ANGLES ± 30' DECIMALS .XX = ±.03 .XXX = ±.010

TOLERANCES ON HOLES NOTED "DRILL"
.013 THRU .040 : +.001 -.001
.041 THRU .130 : +.002 -.001
.131 THRU .229 : +.003 -.001
.230 THRU .500 : +.004 -.001
.501 THRU .750 : +.005 -.001
.751 THRU 1.000 : +.007 -.001
1.001 THRU 2.000 : +.010 -.001

CODE IDENT NO. 03953

DR BY	CALIVA	9/3/63
CHK BY		
APPROVED BY	J.C. Walt 9-3-63	9/24/63
	9-4	

NORTH AMERICAN AVIATION, INC.
SPACE and INFORMATION SYSTEMS DIVISION
12214 LAKEWOOD BLVD., DOWNEY, CALIFORNIA

UNIT, COMPUTER BUFFER, GUIDANCE AND NAVIGATION
(SPEC CONTROL DRAWING)

CONTROL PART
ME901-0271
SHEET 1 OF 3

FORM 925-M-1 NEW 6-63

FOR DEVIATIONS APPLICABLE TO ME 901-0271-0001 ONLY

DEVIATIONS AGAINST SPECIFICATION ME 901-0271 DATED 3 SEPTEMBER 1963, AMENDMENT 1 DATED 12 SEPTEMBER 1963, AND AMENDMENT 3 DATED 27 FEBRUARY 1964.

In the Specification and Amendment 3, paragraph 3.2 Design and Construction.- Delete the entire paragraph and substitute:

"3.2 Design and Construction.- The G&N buffer shall be designed to conform to Specification MC 901-0513 and herein, except for the following deviations from Specification MC 901-0513.

"Page 11, paragraph 3.2.5.2.3 Soldering.- In line 2 following 'MSFC-PROC-158A' insert ', except paragraph VI B5 (c) (3),'."

In the Specification and Amendment 3, paragraph 3.4 Environmental Requirements.- Delete the entire paragraph and substitute:

"3.4 Environmental Requirements.- The environmental requirements for the G&N buffer shall be as specified in Specification MC 901-0513 and herein except for the following deviations from Specification MC 901-0513.

"Page 27, paragraph 3.5.1 Nonoperating.- On page 28 in item (c) delete 'or ice.'

In item (k) delete '52 to 500 cps' and substitute '52 to 200 cps'. On page 29 in item (l) delete:

150-300	156
300-600	158

and substitute:

150-200	156.

"Delete:

2400-4800	160
4800-9600	158

and substitute:

2400-3600	160.

REVISED 7-9-64

TOLERANCES, EXCEPT AS NOTED ANGLES ±30' DECIMALS .XX = ±.03 .XXX = ±.010	TOLERANCES ON HOLES NOTED "DRILL"	.013 THRU .040 : +.001 -.001 .041 THRU .130 : +.002 -.001 .131 THRU .229 : +.003 -.001 .230 THRU .500 : +.004 -.001 .501 THRU .750 +.005 -.001 .751 THRU 1.000 +.007 -.001 1.001 THRU 2.000 +.010 -.001	CODE IDENT NO 03953

DR BY C. Bauer	7-9-64	NORTH AMERICAN AVIATION, INC. SPACE and INFORMATION SYSTEMS DIVISION 12214 LAKEWOOD BLVD., DOWNEY, CALIFORNIA
CHK BY		
APPROVED BY		UNIT, COMPUTER BUFFER, GUIDANCE AND NAVIGATION SPEC CONTROL DRAWING

CONTROL PART

ME 901-0271

SHEET 2

FORM 925-M-1 NEW 6-63

"Page 29, paragraph 3.5.2 Operating.- In item (b) delete 'including condensation of water'. On page 30 in item (g) delete:

'173 to 2000 cycles per second at 10g peak for 60 seconds duration

and substitute:

'173 to 200 and 600 to 2000 cycles per second at 10g peak for 60 seconds duration'.

"In item (h), delete:

150-300	156
300-600	158

and substitute:

150-200	156.

"Delete:

2400-4800	160
4800-9600	158

and substitute:

2400-3600	160.

In PDC 1 and the Specification, add paragraph 3.8.1 Application Marks.- Each ME 901-0271-0001 shall be stamped FOR B/P 14 ONLY using stamping ink No. 73X (Independent Ink Co.) or equivalent.

REVISED (D) 7-9-64 CFB

FORM 929-M-1 NEW 6-63

TOLERANCES EXCEPT AS NOTED ANGLES ± 30' DECIMALS .XX = ±.06 .XXX = ±.010	TOLERANCES ON HOLES NOTED "DRILL" .060 THRU .040 : +.001 -.001; .041 THRU .110 : +.002 -.001; .111 THRU .250 : +.003 -.001; .251 THRU .500 : +.004 -.001; .501 THRU .750 +.006 -.001; .751 THRU 1.000 +.007 -.001; 1.001 THRU 2.000 +.010 -.001	CODE IDENT NO 03953
DR BY C. Bauer 7-9-64	NORTH AMERICAN AVIATION, INC. SPACE and INFORMATION SYSTEMS DIVISION 12214 LAKEWOOD BLVD. DOWNEY, CALIFORNIA	CONTROL PART
CHK BY		ME 901-0271
APPROVED BY 7-9-64	UNIT, COMPUTER BUFFER, GUIDANCE AND NAVIGATION SPEC CONTROL DRAWING	SHEET 3

STANDARDS
REVISION RECORD SHEET

REASON FOR REVISION

ENGINEERING REQUEST

DISPOSITION RECORD

INTERCHANGEABILITY AFFECTED YES ☐ NO ☒

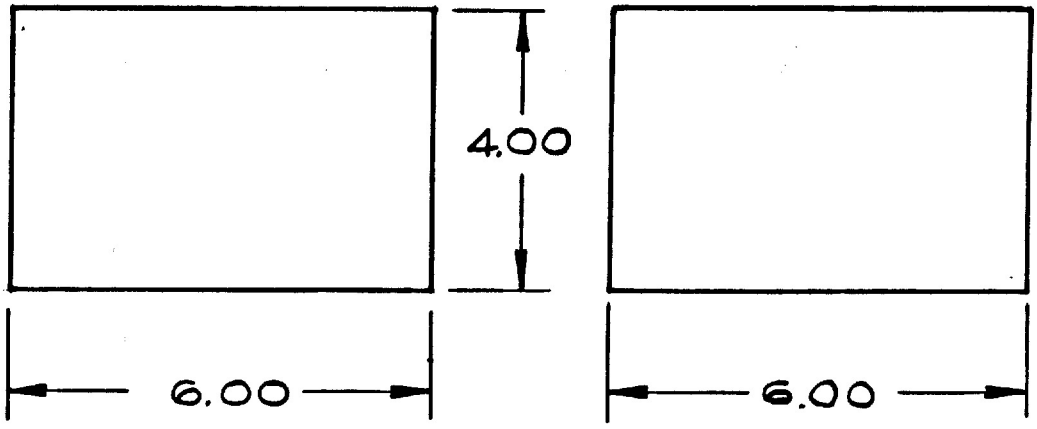
REVISED FROM	REVISED TO
SHEET 1 OF 3	SHEET 1 OF 13
	SHEET 1
	Added Example note
	Added Sheets 2 thru 4
SHEET 2	NOW SHEET 5
Deviations against Specification ME 901-0271	As shown on SCD
SHEET 3	NOW SHEET 6
	Added Sheets 7 thru 13

E.O. 310076

DIVISION S&ID	TITLE UNIT, COMPUTER BUFFER GUIDANCE, AND NAVIGATION	REVISION DATE 11-24-64 "E"
CHG BY O. Davis		ME 901-0271 Sheet 1 of 1

FORM 122-X-2

E.O. 310076



-0001

DIMENSIONS SHOWN ARE MAXIMUM ENVELOPE

① I&T	SCD DASH NO.	REQUIREMENTS
E	-0001	As specified herein and per deviations on Sheets 5 and 6
Ts	-0002	As specified herei . and per deviations on Sheets 7 thru 13.

① IDENTIFICATION AND TRACEABILITY
(E) TRACEABILITY NOT REQUIRED
(T_S) TRACEABILITY BY SERIAL NO.

EXAMPLE OF DASH NO.: ME 901-0271-0001 WILL PROCURE A GUIDANCE AND NAVIGATION COMPUTER BUFFER UNIT WITH DIMENSIONS AND REQUIREMENTS AS SPECIFIED HEREIN AND PER DEVIATIONS ON SHEETS 5 AND 6

NOTE FOR NAA PURCHASING
SEE ASL FOR PROCUREMENT DATA

NAA PROCUREMENT SPECIFICATION - MC 901-0271
AND AMENDMENT 1, 2, 3 & PDC 4

REVISED (A) 9-12-63 CAB (B) ADDED AMEND. 2 & DELETED ASL NOTE. 1-25-64 SL (C) ADDED AMEND. 3 W.D.D. 2-27-64 (D) 7-9-64 C#3 (E) 11-24-64 O.D.

TOLERANCES, EXCEPT AS NOTED	TOLERANCES ON HOLES NOTED "DRILL"	CODE IDENT NO.
ANGLES ± 30' DECIMALS .XX = ±.03 .XXX = ±.010	.013 THRU .040 : +.001 -.001 .041 THRU .130 : +.002 -.001 .131 THRU .229 : +.003 -.001 .230 THRU .500 : +.004 -.001 .501 THRU .750 : +.005 -.001 .751 THRU 1.000 : +.007 -.001 1.001 THRU 2.000 : +.010 -.001	03953

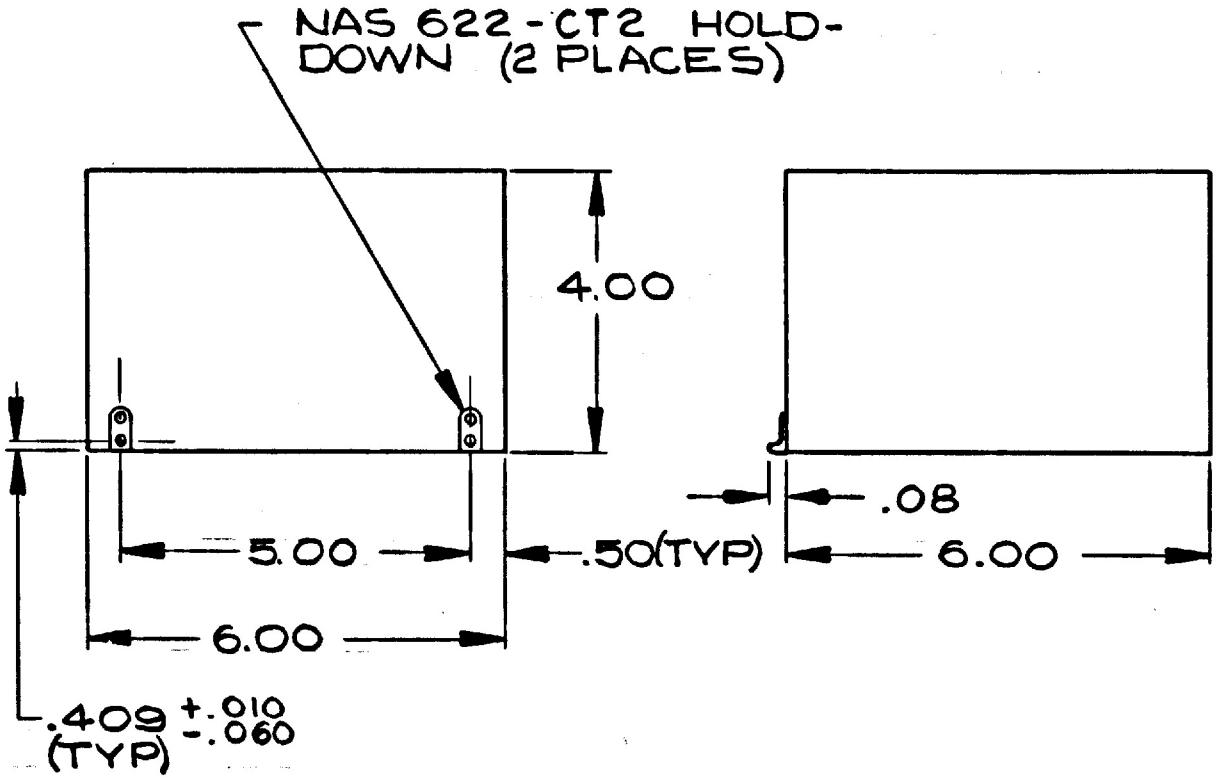
DR BY	CALIVA	9/3/63
CHK BY		
APPROVED BY	J.E. Wolf 9-3 / [illegible] 9-4	9/24/63

NORTH AMERICAN AVIATION, INC.
SPACE and INFORMATION SYSTEMS DIVISION
12214 LAKEWOOD BLVD., DOWNEY, CALIFORNIA

UNIT, COMPUTER BUFFER, GUIDANCE AND NAVIGATION
(SPEC CONTROL DRAWING)

CONTROL PART
ME901-0271
SHEET 1 OF 13

FORM 925-M-1 NEW 6-63

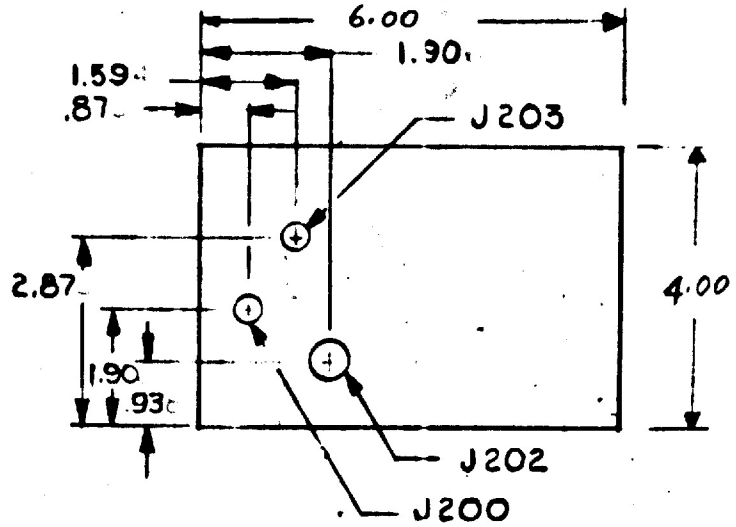


-0002

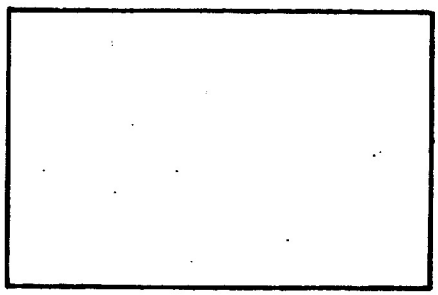
REVISED (E) 11-24-64 O.D.

TOLERANCES, EXCEPT AS NOTED ANGLES ± 30' DECIMALS .XX = ±.03 .XXX = ±.010	TOLERANCES ON HOLES NOTED "DRILL"	.013 THRU .040 : +.001 -.001 .041 THRU .130 : +.002 -.001 .131 THRU .229 : +.003 -.001 .230 THRU .500 : +.004 -.001 .501 THRU .750 : +.005 -.001 .751 THRU 1.000 : +.007 -.001 1.001 THRU 2.000 : +.010 -.001	CODE IDENT NO 03953	
DR BY STEIDING 11-24-4	NORTH AMERICAN AVIATION, INC. SPACE and INFORMATION SYSTEMS DIVISION 12214 LAKEWOOD BLVD., DOWNEY, CALIFORNIA		CONTROL PART	
CHK BY	UNIT, COMPUTER BUFFER, GUIDANCE AND NAVIGATION		ME901-0271	
APPROVED BY [illegible] 11-24-4	SPEC CONTROL DRAWING		SHEET 2	

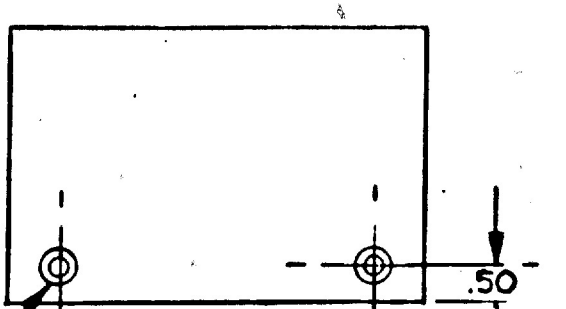
FORM NS-M-1 NEW 6-63



FRONT VIEW



SIDE VIEW



TEFLON INSERT
.305 ±.005 I.D
2 HOLES .875 DEEP

BACK VIEW

NOTE: LOCATE KEYWAYS AT 9:00 O'CLOCK FOR ALL DEUTSCH TYPE DSM CONNECTORS.

REVISED (E) 11-24-64 O.D.

TOLERANCES, EXCEPT AS NOTED ANGLES ± 30' DECIMALS .XX = ±.03 .XXX = ±.010	TOLERANCES ON HOLES NOTED "DRILL" .013 THRU .040 : +.001 -.001 .501 THRU .750 : +.005 -.001 .041 THRU .130 : +.002 -.001 .751 THRU 1.000 : +.007 -.001 .131 THRU .229 : +.003 -.001 1.001 THRU 2.000 : +.010 -.001 .230 THRU .500 : +.004 -.001		CODE IDENT NO 03953
DR BY STEIDING 11-24-4 CHK BY APPROVED BY 11-24-4	NORTH AMERICAN AVIATION, INC. SPACE and INFORMATION SYSTEMS DIVISION 12214 LAKEWOOD BLVD., DOWNEY, CALIFORNIA UNIT, COMPUTER BUFFER, GUIDANCE AND NAVIGATION SPEC CONTROL DRAWING		CONTROL PART ME901-0271 SHEET 3

FORM 925-M-1 NEW 6-63

CONNECTOR PIN AND FUNCTION LIST

PIN NO.	FUNCTION
J200: (DS00-194P, DEUTSCH CO. OR EQUAL)	
	POWER
1	PLUS
2	MINUS
3	N/C
4	N/C
J202: (DS04-7S, DEUTSCH CO. OR EQUAL)	
	DATA OUTPUT
1	N/C
2	LOGIC "1" - DATA OUTPUT
3	LOGIC "0" SHIELD
4	LOGIC "0" DATA RETURN
5	LOGIC "0" DATA OUTPUT
6	LOGIC "1" SHIELD
7	LOGIC "1" DATA RETURN
J203: (DS04-19-33S DEUTSCH CO. OR EQUAL)	
	LOGIC INPUT
1	N/C
2	N/C
3	2^{1}
4	$\overline{2^{1}}$
5	2^{2}
6	$\overline{2^{2}}$
7	2^{3}
8	$\overline{2^{3}}$
9	2^{4}
10	$\overline{2^{4}}$
11	2^{5}
12	$\overline{2^{5}}$
13	2^{6}
14	$\overline{2^{6}}$
15	2^{7}

PIN NO.	FUNCTION
J203 (CONT.)	
16	-2^{7}
17	2^{8}
18	$\overline{2^{8}}$
19	2^{9}
20	$\overline{2^{9}}$
21	2^{10}
22	$\overline{2^{10}}$
23	2^{11}
24	$\overline{2^{11}}$
25	2^{12}
26	$\overline{2^{12}}$
27	2^{13}
28	$\overline{2^{13}}$
29	2^{14}
30	$\overline{2^{14}}$
31	2^{15}
32	$\overline{2^{15}}$
33	2^{16}
34	$\overline{2^{16}}$
35	2^{17}
36	$\overline{2^{17}}$
37	2^{18}
38	$\overline{2^{18}}$
39	G&N SELECT
40	GROUP DECODE CHECK
41	BUFFER NOT BUSY
42	MODE CHECK
43	BUFFER CHECK
44 THRU 57	N/C OR TEST POINTS
58	LOGIC GROUND
59	CHASSIS GROUND
60	-
61	-

REVISED (E) 11-24-64 ADD

FORM 523-M-1 NEW 6-63

TOLERANCES, EXCEPT AS NOTED: ANGLES ± 30' DECIMALS .XX = ±.05, .XXX = ±.010

TOLERANCES ON HOLES NOTED "DRILL": .015 THRU .040 : +.001 -.001; .041 THRU .130 : +.002 -.001; .131 THRU .229 : +.003 -.001; .230 THRU .500 : +.004 -.001; .501 THRU .750 : +.005 -.001; .751 THRU 1.000 : +.007 -.001; 1.001 THRU 2.000 : +.010 -.001

CODE IDENT NO 03953

DR BY	C. BAUER	11/20/64
CHK BY		
APPROVED BY		

NORTH AMERICAN AVIATION, INC.
SPACE and INFORMATION SYSTEMS DIVISION
12214 LAKEWOOD BLVD., DOWNEY, CALIFORNIA

COMPUTER BUFFER UNIT, GUIDANCE AND NAVIGATION

SPEC CONTROL DRAWING

CONTROL PART

ME 901-0271

SHEET 4

FOR DEVIATIONS APPLICABLE TO ME 901-0271-0001 ONLY

DEVIATIONS AGAINST SPECIFICATION ME 901-0271 DATED 3 SEPTEMBER 1963, AMENDMENT 1 DATED 12 SEPTEMBER 1963, AND AMENDMENT 3 DATED 27 FEBRUARY 1964.

In the Specification and Amendment 3, paragraph 3.2 Design and Construction.- Delete the entire paragraph and substitute:

"3.2 Design and Construction.- The G&N buffer shall be designed to conform to Specification MC 901-0513 and herein, except for the following deviations from Specification MC 901-0513.

"Page 11, paragraph 3.2.5.2.3 Soldering.- In line 2 following 'MSFC-PROC-158A' insert ', except paragraph VI B5 (c) (3),'."

In the Specification and Amendment 3, paragraph 3.4 Environmental Requirements.- Delete the entire paragraph and substitute:

"3.4 Environmental Requirements.- The environmental requirements for the G&N buffer shall be as specified in Specification MC 901-0513 and herein except for the following deviations from Specification MC 901-0513.

"Page 27, paragraph 3.5.1 Nonoperating.- On page 28 in item (c) delete 'or ice.'

In item (k) delete '52 to 500 cps' and substitute '52 to 200 cps'. On page 29 in item (l) delete:

150-300	156
300-600	158

and substitute:

150-200	156.

"Delete:

2400-4800	160
4800-9600	158

and substitute:

2400-3600	160.

E.O. 21076

REVISED (D) 7-9-64 (E) 11-24-64 OD CF3

TOLERANCES, EXCEPT AS NOTED ANGLES ± 30' DECIMALS .XX = ±.03 .XXX = ±.010	TOLERANCES ON HOLES NOTED "DRILL"	.013 THRU .040 : +.001 -.001	.041 THRU .130 : +.002 -.001	.131 THRU .229 : +.003 -.001	.230 THRU .500 : +.004 -.001	.501 THRU .750 : +.005 -.001	.751 THRU 1.000 : +.007 -.001	1.001 THRU 2.000 : +.010 -.001	CODE IDENT NO 03953		
DR BY C. Bauer 7-9-64	NORTH AMERICAN AVIATION, INC. SPACE and INFORMATION SYSTEMS DIVISION 12214 LAKEWOOD BLVD., DOWNEY, CALIFORNIA								CONTROL PART		
CHK BY											
APPROVED BY 7-9-64	UNIT, COMPUTER BUFFER, GUIDANCE AND NAVIGATION								ME 901-0271		
	SPEC CONTROL DRAWING								SHEET 5		

FORM 225-M-1 NEW 6-63

"Page 29, paragraph 3.5.2 Operating.- In item (b) delete 'including condensation of water'. On page 30 in item (g) delete:

'173 to 2000 cycles per second at 10g peak for 60 seconds duration

and substitute:

'173 to 200 and 600 to 2000 cycles per second at 10g peak for 60 seconds duration'.

"In item (h), delete:

150-300	156
300-600	158

and substitute:

150-200	156.

"Delete:

2400-4800	160
4800-9600	158

and substitute:

2400-3600	160.

In Amendment 1 and the Specification, add paragraph 3.8.1 Application Marks.- Each ME 901-0271-0001 shall be stamped FOR B/P 14 ONLY using stamping ink No. 73X (Independent Ink Co.) or equivalent.

REVISED (D) 7-9-64 CFB (E) 11-24-64 KS

TOLERANCES EXCEPT AS NOTED ANGLES ±30' DECIMALS .XX = ±.03 .XXX = ±.010	TOLERANCES ON HOLES NOTED "SMALL": .013 THRU .040 : +.001 -.001; .041 THRU .130 : +.002 -.001; .131 THRU .229 : +.003 -.001; .230 THRU .500 : +.004 -.001; .501 THRU .750 : +.006 -.001; .751 THRU 1.000 : +.007 -.001; 1.001 THRU 2.000 : +.010 -.001	CODE IDENT NO 03953
DR BY C. Bauer 7-9-64 CHK BY APPROVED BY 7-9-64	NORTH AMERICAN AVIATION, INC. SPACE and INFORMATION SYSTEMS DIVISION 12214 LAKEWOOD BLVD. DOWNEY, CALIFORNIA UNIT, COMPUTER BUFFER, GUIDANCE AND NAVIGATION SPEC CONTROL DRAWING	CONTROL PART ME 901-0271 SHEET 6

FORM 925-M-1 NEW 6-63

FOR DEVIATIONS APPLICABLE TO ME 901-0271-0002 ONLY

DEVIATIONS AGAINST SPECIFICATION ME 901-0271 DATED 3 SEPTEMBER 1963, AMENDMENT 1 DATED 12 SEPTEMBER 1963.

Page 2, paragraph 1.1 Scope.- Delete the entire paragraph and substitute:

"1.1 Scope.- This specification covers the requirements for a Guidance and Navigation Computer Buffer Unit, hereinafter referred to as the G&N buffer. The G&N buffer shall form a part of the Digital Test Command System (DTCS) which is the up-link portion of the Automatic Checkout Equipment (ACE). The ACE will be used as ground support equipment for the Apollo spacecraft. The G&N buffer shall receive remotely generated digital test commands from the control room via the DTCS and shall store, verify, and shift out G&N data in appropriate format to the G&N on-board computer. Figure 1B shows a functional diagram of the G&N buffer."

Page 2, paragraph 2.1 Applicability.- Delete the entire paragraph in the Specification, Amendment 2, 3, and PDC 4 and substitute:

"2.1 Applicability.- The following documents of the issue date specified below form a part of this specification to the extent specified herein.

SPECIFICATION

MIL-E-4158C 5 July 1962	Electronic Equipment, Ground, General Requirement for
MIL-S-5059A(1) 26 August 1955	Steel, Corrosion-Resistant, (18-8) Plate, Sheet, and Strip
MIL-E-5400F(1) 15 March 1963	Electronic Equipment, Aircraft, General Specification for
MIL-W-6858B(1) 22 March 1962	Welding, Resistance: Aluminum, Magnesium, Non-hardening Steels or Alloys, Nickel Alloys, Heat Resisting Alloys, and Titanimum Alloys; Spot and Seam

REVISED (E) 11-24-64 CD

FORM 925-M-1 NEW 6-63

TOLERANCES, EXCEPT AS NOTED ANGLES ± 30' DECIMALS .XX = ±.05 .XXX = ±.010	TOLERANCES ON HOLES NOTED "DRILL"	.063 THRU .040 : +.001 -.001 .041 THRU .130 : +.002 -.001 .131 THRU .229 : +.003 -.001 .230 THRU .500 : +.004 -.001 .501 THRU .750 : +.006 -.001 .751 THRU 1.000 : +.007 -.001 1.001 THRU 2.000 : +.010 -.001	CODE IDENT NO 03953
DR BY C. Bauer 11/24/64 CHK BY APPROVED BY 11-24-64	NORTH AMERICAN AVIATION, INC. SPACE and INFORMATION SYSTEMS DIVISION 12214 LAKEWOOD BLVD., DOWNEY, CALIFORNIA UNIT, COMPUTER BUFFER, GUIDANCE AND NAVIGATION SPEC CONTROL DRAWING		CONTROL PART ME 901-0271 SHEET 7

MIL-B-7883 28 January 1954	Brazing of Steels, Copper, Copper Alloys and Nickel Alloys
MIL-A-8421B 5 May 1960	Air Transportability Requirements, General Specification for
MIL-W-8611A 24 July 1957	Welding, Metal Arc and Gas, Steels and Corrosion and Heat Resistant Alloys; Process for
MIL-R-27542(1) 31 October 1961	Reliability Program Requirements for Aerospace Systems, Systems, and Equipment
MIL-C-45662A 9 February 1962	Calibration System Requirements
MIL-D-70327(2) 27 March 1962	Drawings, Engineering and Associated Lists

North American Aviation, Inc.,
Space and Information Systems Division (NAA/S&ID)

MA 0116-017 8 August 1963	Supplier Packaging Requirements
MA 0201-0209A 8 August 1963	Identification and Traceability Subcontractors and Suppliers, Apollo Program, General Specification for
MB 0125-019 30 January 1964	Coating, Polyester, Light-diffusing
MC 411-0125A(1) 24 September 1963	Cable and Cable Assemblies, Electrical, Special Purpose, Apollo Ground Support Equipment, General Procurement Specification
MC 901-0270(5) 9 July 1964	Receiver-Decoder Unit
MC 901-0272(4) 9 July 1964	Module, Relay, Latching

REVISED 12-22-11 (21)

FORM 925-M-1 NEW 6-63

TOLERANCES, EXCEPT AS NOTED ANGLES ±30' DECIMALS .XX = ±.03 .XXX = ±.010	TOLERANCES ON HOLES NOTED "DRILL"	.013 THRU .040 : +.001 -.001 .041 THRU .130 : +.002 -.001 .131 THRU .229 : +.003 -.001 .230 THRU .500 : +.004 -.001	.501 THRU .750 : +.006 -.001 .751 THRU 1.000 : +.007 -.001 1.001 THRU 2.000 : +.010 -.001	CODE IDENT NO 03953
DR BY C. Bauer 11/29/64 CHK BY APPROVED BY J. Curtis 11-4-64	NORTH AMERICAN AVIATION, INC. SPACE and INFORMATION SYSTEMS DIVISION 12214 LAKEWOOD BLVD., DOWNEY, CALIFORNIA			CONTROL PART
	UNIT, COMPUTER BUFFER, GUIDANCE, AND NAVIGATION SPEC CONTROL DRAWING			ME 901-0271 SHEET 8

MC 901-0273(4) 26 June 1964	Module, Relay, Conventional
MC 901-0274(4) 26 June 1964	Module, Converter, Digital-to-Analog
MC 901-0275(4) 26 June 1964	Baseplate Unit
MC 901-0488(2) 9 July 1964	Enclosure Unit, Dual Baseplate
MC 901-0489(2) 9 July 1964	Enclosure Unit, Receiver Decorder-Baseplate
MC 901-0490(2) 27 February 1964	Module, Converter, Digital-to-Analog, Current Mode
MC 901-0505(1) 9 July 1964	Command Stimuli Set
MC 901-0513(5) 9 July 1964	Digital Test Command System
MC 999-0002B 3 January 1963	Electromagnetic Interference Control for the Apollo Space System, General Specification for
MC 999-0025B 12 November 1963	Documentation Requirements for Apollo Major Subcontractor, General Specification for
MC 999-0017A(1) 11 October 1963	Human Engineering Design Criteria for Spacecraft Systems, Ground Support Equipment
MC 999-0055 12 August 1963	Design Standards for Apollo GSE Located in Hazardous Areas
MQ 0802-001A 31 July 1963	General Requirements for NAA Suppliers Quality Control System for NASA Contracts

E.O. 310076

REVISED (5) 11-24-64

FORM 525-M-1 NEW 6-63

TOLERANCES, EXCEPT AS NOTED ANGLES ± 30' DECIMALS .XX = ±.05 .XXX = ±.010	TOLERANCES ON HOLES NOTED "DRILL" .013 THRU .040 : +.001 -.001 .041 THRU .130 : +.002 -.001 .131 THRU .229 : +.003 -.001 .230 THRU .500 : +.004 -.001 .501 THRU .750 : +.005 -.001 .751 THRU 1.000 : +.007 -.001 1.001 THRU 2.000 : +.010 -.001	CODE IDENT NO 03953	
DR BY C. Bauer 11/24/64 CHK BY APPROVED BY	NORTH AMERICAN AVIATION, INC. SPACE and INFORMATION SYSTEMS DIVISION 12214 LAKEWOOD BLVD., DOWNEY, CALIFORNIA UNIT, COMPUTER, BUFFER, GUIDANCE, AND NAVIGATION SPEC CONTROL DRAWING	CONTROL PART ME 901-0271 SHEET 9	

STANDARDS

Federal

FED-STD-595 1 March 1956	Colors

Military

MIL-STD-130B 24 April 1962	Identification Marking of U.S. Military Property
MIL-STD-143 15 June 1960	Specification and Standards, Order of Precedence for the Selection of
MIL-STD-202B 24 September 1962	Test Methods for Electronic and Electrical Component Parts
MIL-STD-701C 9 July 1962	Preferred and Guidance List of Semi-conductor Devices
MIL-STD-806B 26 February 1962	Graphic Symbols for Logic Diagrams
MIL-STD-810 14 June 1962	Environmental Test Methods for Aerospace and Ground Equipment
MS 20995B 1 September 1961	Wire, Lock

PUBLICATIONS

National Aeronautics and Space Administration (NASA)

MSC-ASPO-S-5B 10 February 1964	MSC-ASPO Soldering Specifications and Supplement dated 18 May 1964
MSFC-PROC-158A 12 April 1962	Soldering of Electrical Connections (High Reliability), Procedure for

REVISED (E) 11-24-64

FORM 223-M-1 NEW 6-63

TOLERANCES, EXCEPT AS NOTED ANGLES ±30' DECIMALS .XX = ±.03 .XXX = ±.010	TOLERANCES ON HOLES NOTED "DRILL"	.013 THRU .040 : +.001 -.001 .041 THRU .130 : +.002 -.001 .131 THRU .229 : +.003 -.001 .230 THRU .500 : +.004 -.001	.501 THRU .750 : +.005 -.001 .751 THRU 1.000 : +.007 -.001 1.001 THRU 2.000 : +.010 -.001	CODE IDENT NO 03953
DR BY C. Bauer 11/24/64	NORTH AMERICAN AVIATION, INC. SPACE and INFORMATION SYSTEMS DIVISION 12214 LAKEWOOD BLVD., DOWNEY, CALIFORNIA			CONTROL PART
CHK BY				
APPROVED BY C Curtis 11-24-64	UNIT, COMPUTER, BUFFER, GUIDANCE, AND NAVIGATION SPEC CONTROL DRAWING			ME 901-0271 SHEET 10

Steel Structure Painting Council

Specification No. 2 or 3 — Steel Structures Painting Manual, Volume 2, Section 2, (Systems and Specifications)

United States Air Force (USAF)

Bulletin 23, 31 January 1961 — Materials and Process Specifications

In Specification MC 901-0513, paragraph 3.2.5.2.3 Soldering.- Delete the entire paragraph and substitute:

"3.2.5.2.3 Soldering.- Solder, preparation for soldering, and soldering of electrical connections on the DTCS shall conform to MSFC-PROC-158 or amended by MSC-ASPO-S-5B with Supplement dated 18 May 1964, excepting paragraph VIB 5 (c) (3) of MSFC-PROC-158A.

In Specification MC 901-0513, paragraph 3.3.1.5 Internal Configuration.- Delete the entire paragraph and substitute:

"3.3.1.5 Internal Configuration.- The components shall be compact, lightweight, designed for low power requirements, and for aerospace application. The internal configuration of the components shall be of a high density.discrete component design employing a minimum of assembly types. Interconnection between assemblies shall be by either etched circuit board or direct wiring with solder connections. Internal components shall be designed so that heat transfer paths shall terminate on a minimum number of thermal interfaces."

REVISED (E) 11-24-64

TOLERANCES, EXCEPT AS NOTED: ANGLES ± 30' DECIMALS .XX = ±.03, .XXX = ±.010	TOLERANCES ON HOLES NOTED "DRILL": .013 THRU .040 : +.001 -.001; .041 THRU .130 : +.002 -.001; .131 THRU .229 : +.003 -.001; .230 THRU .500 : +.004 -.001; .501 THRU .780 : +.006 -.001; .781 THRU 1.000 : +.007 -.001; 1.001 THRU 2.000 : +.010 -.001				CODE IDENT NO 03953
DR BY C. Bauer 11/24/64	NORTH AMERICAN AVIATION, INC. SPACE and INFORMATION SYSTEMS DIVISION 12214 LAKEWOOD BLVD., DOWNEY, CALIFORNIA				CONTROL PART
CHK BY					
APPROVED BY C. Curtis 11-24-64	UNIT, COMPUTER BUFFER, GUIDANCE AND NAVIGATION SPEC CONTROL DRAWING				ME 901-0271
					SHEET 11

FORM 525-M-1 NEW 6-63

In Specification MC 901-0513, paragraph 3.3.2.5 G&N Buffer/Apollo Guidance Computer (AGC) Interface.- Delete the first 3 sentences and substitute:

"The G&N buffer shall transfer digital data in serial form to the AGC on two separately-shielded twisted-pair lines with a maximum length of 150 feet. A signal pulse on one line shall signify to the AGC a logic '1'. A signal pulse on the other line shall signify to the AGC a logic '0'."

In Specification MC 901-0513, paragraph 3.3.2.5 G&N Buffer/Apollo Guidance Computer (AGC) Interface.- Delete item (d) and subsitute:

"(b) Load impedance — 200 plus or minus 20 ohms at 7 volts at the end of 150 feet of a twisted, shielded pair of AWG #20 wire"

Page 3, paragraph 3.3.1 General.- In item (c), delete line 2 and substitute:

"buffer with those of the DTCS staticizing register"

Page 3, paragraph 3.3.2 Mode Decoder.- In line 2 following "DTCS", delete "shift".

Page 3, paragraph 3.3.4 Comparison Gates.- In line 2 following "DTCS" delete "shift register" and substitute "staticizing register".

Page 4, paragraph 3.3.5 Counter and Clock.- In line 2 following "16-counter to" insert "count".

Page 4, paragraph 3.3.6 G&N Buffer Register.- In line 3 following "DTCS" delete "shift".

Page 4, paragraph 3.3.7 Power.- Delete the entire paragraph in the Specification and Amendment 1, and substitute:

"3.3.7 Power.- The G&N buffer shall contain power supplies necessary for its own circuits. The input power line and return line shall be electrically isolated from the G&N buffer signal ground and chassis ground."

22-12-11 (3) REVISED

FORM 223-34-1 NEW 6-63

TOLERANCES, EXCEPT AS NOTED ANGLES ±30' DECIMALS .XX = ±.03 .XXX = ±.010	TOLERANCES ON HOLES NOTED "DRILL"	.013 THRU .040 : +.001 -.001	.501 THRU .750 : +.006 -.001	CODE IDENT NO 03953			
		.041 THRU .130 : +.002 -.001	.751 THRU 1.000 : +.007 -.001				
		.131 THRU .229 : +.003 -.001	1.001 THRU 2.000 : +.010 -.001				
		.230 THRU .500 : +.004 -.001					
DR BY C. Bauer 11/29/61	NORTH AMERICAN AVIATION, INC. SPACE and INFORMATION SYSTEMS DIVISION 12214 LAKEWOOD BLVD., DOWNEY, CALIFORNIA			CONTROL PART			
CHK BY							
APPROVED BY [signature] 11-29-61	UNIT, COMPUTER BUFFER, GUIDANCE AND NAVIGATION SPEC CONTROL DRAWING			ME 901-0271			
				SHEET 12			

In Specification MC 901-0513, paragraph 3.5.2 Operating.- Delete item (g) and substitute:

"(g) Vibration	5 to 12 cycles per second at 1.0 g peak for 60 seconds duration 12 to 24 cycles per second at 0.15 inch double amplitude for 60 seconds duration 24 to 2000 cycles per second at 5g peak for 60 seconds duration"

In PDC 1 to Specification MC 901-0513, paragraph 3.8 Identification.- In line 1, after "groups" add "and components".

In Specification MC 901-0513, paragraph 4.1 Quality Control.- Delete the entire paragraph and substitute:

"4.1 Quality Control.- The subcontractor shall have a quality assurance program in accordance with Specification MQ 0802-001 except that identification and traceability shall be in accordance with Specification MA 0201-0209. The subcontractor shall have a reliability program in accordance with Specification MIL-R-27542. NAA/S&ID reserves the right to conduct any survey required to adequately evaluate the subcontractor's facilities and capabilities of conformance to specification requirements."

In Specification MC 901-0513, paragraph 4.4.1 Development Tests.- Delete the first sentence.

In Specification MC 901-0513, paragraph 4.5.4 Electromagnetic Interference Test.- Delete item (c) entirely.

E.O. 310076

REVISED (F) 11-24-64

FORM 925-M-1 NEW 6-63

TOLERANCES, EXCEPT AS NOTED ANGLES ± 30' DECIMALS .XX = ±.03 .XXX = ±.010	TOLERANCES ON HOLES NOTED "DRILL"	.013 THRU .040 : +.001 -.001 .041 THRU .130 : +.002 -.001 .131 THRU .229 : +.003 -.001 .230 THRU .500 : +.004 -.001	.501 THRU .750 : +.006 -.001 .751 THRU 1.000 : +.007 -.001 1.001 THRU 2.000 : +.010 -.001	CODE IDENT NO 03953		
DR BY C. Bauer 11-24-4	NORTH AMERICAN AVIATION, INC. SPACE and INFORMATION SYSTEMS DIVISION 12214 LAKEWOOD BLVD., DOWNEY, CALIFORNIA			CONTROL PART		
CHK BY						
APPROVED BY [signature] 11-24-4	UNIT, COMPUTER, BUFFER, GUIDANCE AND NAVIGATION			ME 901-0271		
	SPEC CONTROL DRAWING			SHEET 13		

PREPARED BY	CODE IDENT. NO.: CODE 03953	PDC NUMBER 1
R. Manaker/ C. Bauer	NORTH AMERICAN AVIATION, INC. SPACE and INFORMATION SYSTEMS DIVISION 12214 LAKEWOOD BLVD., DOWNEY, CALIFORNIA	DATE 21 July 1965
APPROVALS	PDC PROCUREMENT DOCUMENT CHANGE	DOCUMENT NO. ME 901-0271
		DATE 22 January 1965
RELEASE E.O. M 399848		REV. LTR. F — PAGE 1 of 1

DOCUMENT TITLE

UNIT, COMPUTER BUFFER, GUIDANCE AND NAVIGATION

THIS PDC FORMS A PART OF SCD ME 901-0271, REVISION F, DATED 22 JANUARY 1965.

Sheet 1

In table, opposite "-0002", delete "T_s" and substitute "E".

In (1) delete "(T_s) Traceability by serial no."

Add the following:

"ALL ITEMS ON THIS SCD ARE EXEMPT FROM TRACEABILITY. ITEMS PREVIOUSLY MANUFACTURED OR PROCURED IN ACCORDANCE WITH TRACEABILITY REQUIREMENTS ARE INTERCHANGEABLE WITH THE CORRESPONDING NON-TRACEABLE ITEMS."

Sheet 8

Under North American Aviation, Inc., Space and Information Systems Division (NAA/S&ID), delete:

"MA 0201-0209A 8 August 1963	Identification and Traceability, Subcontractors and Suppliers, Apollo Program, General Specification for"

Sheet 13

Paragraph 4.1 Quality Control.-, in the first sentence, delete "except that identification and traceability shall be in accordance with Specification MA 0201-0209."

E.O. 399848